PREPARATION FOR THE INTERNATIONAL ASSESSMENT SYSTEM USING MODERN METHODS IN TEACHING STUDENTS IN THE GENERAL SECONDARY EDUCATION SYSTEM.

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ABSTRACT

The article presents the preparation and assignments of students for the PIRLS and PISA programs for the international assessment of students in the general secondary education system, as well as the problems in the lessons of the general secondary education system.

Key words: PISA, PIRLS, TIMSS, CaF₂, coarse dispersed system, chin solution (dispersed), kalloid dispersed system heavy water, light water, very heavy water.

1. INTRODUCTION

The Concept of Development of the Public Education System until 2030, approved by the Decree of the President of the Republic of Uzbekistan on April 29, 2019, sets a number of priorities, such as raising the system of continuing education to a qualitatively new level. In particular, in the ranking of the International Student Assessment Program PISA (The Program for International Student Assessment), Uzbekistan is expected to be among the top 30 countries in 2021, 60 in 2025 and 2030. Taking a worthy place in the international arena under the PISA program is not just a number, but also issues related to hard work, quality of education, human resources, students' knowledge and skills, curricula, readiness of the national education system. More than a year has passed since Uzbekistan began participating in international research, and "what has been done over the past period?" It is natural that the question arises.

2. MAIN PART

The National Center for International Research on Education Quality Assessment has been established under the State Inspectorate for Education Quality Control, an organization responsible for ensuring the participation of general education institutions in the international assessment program. The National Center is tasked with ensuring the successful participation of general secondary education institutions in international research, comparing the results of international assessment programs with other countries, and other responsibilities.

Cooperation has been established between the State Inspectorate for Education Quality Control and a leading international organization, and Uzbekistan is scheduled to participate in PISA and PIRLS programs for the first time in 2021.

It should be noted that the criteria and methods of assessing the knowledge of our students through this international study are radically different from the criteria and tasks of internal and external assessment in the system of continuing education of our country today. In other words, in the PISA program, 15-year-old students are literate in reading, mathematics and science, not just remembering information from curricula and textbooks in these subjects, but how well they can apply their knowledge in different situations of everyday life and find optimal solutions to problems, thinking skills are assessed. The PIRLS program assesses the ability of 4th graders to read, understand, and interpret texts outside of textbooks, rather than reading traditional texts quickly, fluently, and expressively, and to express their thoughts in written language. Students should be monitored from the first grade and their knowledge, interests, desires, wishes and abilities should be taken into account. This responsible task is primarily the responsibility of primary school teachers. Students should be taught from an early age to understand and think scientifically about everything, events and science.

3. METHODS

Training in the same way in foreign projects can be seen from the fact that today the International Assessment System prepares their students for TIMSS, PIRLS, PISA. We can also train students in our country on the basis of a similar foreign project. To do this, primary school teachers need to use the abovementioned student knowledge-shaping factors in addition to imparting knowledge to students. It is now possible to increase the natural-scientific literacy of students using pedagogical technologies using the methods of "Brainstorming", "Pindword". In the following, we will consider the technology of re-explaining these processes to students by asking questions to students using the technology of "mental attack" and correctly interpreting their answers. In grades 1-4, students should not be limited to teaching on the basis of textbooks only. It is necessary to explain to students a number of natural phenomena, events that occur in our social life through interdisciplinary integrations. For example, a student should wash his face and have breakfast in the morning before coming to school, and ask the student about real-life events he has built in the pre-school distance, and explain these processes to the student on the basis of interdisciplinary integrations. According to the "brainstorming" method, students should be asked and explained the following questions. What is the composition, types and processes of water used in the process of washing the face and teeth of the student, processed and delivered to the consumer?1. The composition of water is divided into 3 types: heavy water, light water and super heavy water. The water we consume is light water. The reason water is called heavy, light, and very heavy depends on the mass of oxygen in the water. Light water contains 1 atomic mass of hydrogen, heavy water contains 2 atomic masses of hydrogen, and very heavy water contains 2 atomic masses of hydrogen. This means that water contains hydrogen isotopes (protium-¹₁H, deuterium-¹₂D, tritium $-\frac{1}{3}$ T). All waters contain 1 oxygen atom and have the formulas: light water (H₂O = 16 g / mol), heavy water ($D_2O = 20 \text{ g} / \text{mol}$), and very heavy water ($T_2O = 22 \text{ g} / \text{mol}$). As can be seen from the formulas, the mass of light water is 16. The composition of drinking water also corresponds to this formula. Water makes up 3/4 of the earth's surface. Only 0,02% of this water is drinking water. This means that the amount of drinking (light, soft) water is very small. Drinking water should be stored without wastage. Water should be used sparingly when washing face and hands.2. When you brush your teeth, toothpaste usually contains a lot of calcium fluoride (CaF₂). Calcium fluoride is a white soft greasy substance. 3. When this substance is dissolved in water, a white solution is formed. Calcium fluoride in toothpaste cleans the enamel of the tooth, preventing damage to the enamel.4. The place prepared at breakfast is a solid or porous substance. Dissolves in water and changes the color of the solution. This is also one of the symptoms of chemical phenomena. Cheese and butter for breakfast are also organic. They contain glycerin and high molecular weight carbonic acids. When these substances enter the body, a number of chemical processes take place, and as a result we have to explain that these organic substances are converted into substances that perform energy functions.5. The solution formed in the tea composition can be in saturated, unsaturated and super-saturated states. It can also be explained to students through colors that this space can also be divided according to color.6.It is necessary to correctly explain to students the composition of air entering the body during respiration. Assuming that 1 liter of air enters the body when the tables take a deep breath, it consists of a mixture of 20-21% oxygen, 78% nitrogen and 1% remaining gases.7. Gas molecules in air are in constant and chaotic motion. So we can see dust particles flying in the air. Depending on the size of the particles in the air, they are divided into coarse, fine and calloid disperse systems. It also depends on the size of these particles. Because the particle size in the coarse disperse system is greater than 100 nm, it can be seen with the naked eye. Because the chin is less than 1 nm in the disperse system, it may not be visible to the naked eye or using a microscope. The calloid disperse system is 1-100 nm. These particles can be seen (some) even under a microscope and the naked eye. If the teacher explains the above questions through similar answers, the students will be able to understand the process and reality around them. The decrees and decrees of the President of the Republic of Uzbekistan and the decrees of the Ministry of Public Education stipulate that the participation of the youth of Uzbekistan in the International Assessment System TIMSS, PIRLS, PISA by 2030 will take an influential place. Therefore, in order for students, especially between the ages of 11 and 15, to achieve good results in this International Assessment System, it is necessary to develop students' natural science literacy. To do this, the teacher who teaches this natural sciences must teach the lesson using the

integration of the natural sciences in explaining the topic. For example: Suppose a single teacher teaches students about water in nature, its biological significance, formulas, chemical properties, distribution and importance in a geographical environment (atmosphere, hydrosphere, lithosphere, stratosphere, etc.), its physical properties, and its mathematical knowledge of water. calculations, even the sciences of drawing, fine arts can be used to express the spatial forms of molecules in their composition (aggregate state-liquid, solid, gas).

4. RESULT

It is on the basis of this integration of natural sciences that we give students as an example the questions formulated in the context of the international assessment PISA. For example: information on the types of fuels is given and questions are asked based on this information, taking into account the natural-scientific literacy.

- Combustion is the first chemical reaction studied by man.
- Reactions involving the release of large amounts of heat and light in the presence of oxygen are called combustion.
- The heat released from the combustion of a substance in pure oxygen is higher than its combustion in air.



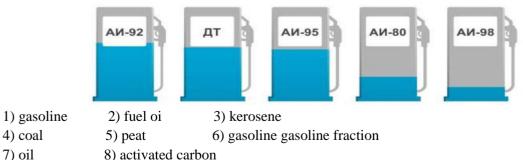
- If we put the charcoal in a container with clean oxygen, it will start burning immediately.
- If we drop the soaked trash in an airtight container, it may die. If this straw burns, it will continue to burn in the air as well.
 - The temperature required to burn a substance in air is called the ignition temperature.
 - A mixture of hot gas and vapors.
 - A material that can generate heat due to its flammability is called a fuel.
 - Fuel is solid, liquid and gaseous.
 - Always use fuel correctly and in accordance with safety regulations. Failure to do so may result in fire.
 - Fire is an uncontrolled combustion event.

B) 2, 7

- In Uzbekistan, solid fuel coal is mined mainly from Angren, Shargun, Boysun fields. Uzbekistan has more than 2 billion tons of coal reserves.
 - Liquid fuel oil is extracted in Ustyurt, Bukhara, southwestern Gissar, Surkhandarya, Fergana regions.
 - The largest natural gas fields in the country are Shortang and Mubarek.

Ouestion 1

In the text above, the types of fuel are shown in 3. Liquid, solid and gas. But what is included in liquid, solid and gaseous fuels is not fully expressed. Read the text above carefully and think about it. In the task below, determine what goes into liquid fuels.



C) 5, 8

Question 2:

A) 1, 3, 6

Read the text above carefully and think for yourself. In the task below, determine what solid fuels are included.

D) 4, 8



1) gasoline

2) fuel oil

3) kerosene

4) coal

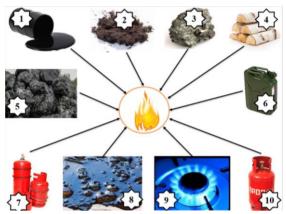
5) peat

6) methane A) 1, 2, 3

7) oil B) 6, 7, 9 8) propane C) 4, 5, 8 9) butane D) 6, 7, 8 8

Question 3

Salim also explained the fuels in the picture below by helping his brother complete the above tasks and increased his brother's interest in chemistry. Think about it and describe the picture that Salimjon used, and explain your point with examples.



Determine Solid Fuel Numbers - _____

Determine Liquid Fuel Numbers -__

Determine Gas Fuel Numbers -

Conclusion: _

Question 4

Salim explained to his brother that even in the district where they live, the locals prepare a number of fuels by finely processing the tree trunk (wood). He asked his brother a question from the picture below, tell me, in which numbers do you think the fuel in which it burns burns better and emits better heat?



Think about it, and when Karimjon told his brother what answer he had, he encouraged his brother that he had found the right one. Write your answer in the lines below.

Answer	 	 	

Question 5

Read the text above carefully. Explain how the images in the image below are related.



They are mining coal, gas, oil all fuel substances
It is possible to make coal-gas, gas-liquid fuel
CO 2 is formed when wood burns and mines, gas and oil burn
The images shown in the all burning heat produces.

If we put the burning garbage in a clean oxygen container, it will start burning immediately.

To achieve the combustion of substances, it is first necessary to heat them to the ignition temperature and ensure that they absorb oxygen.

To extinguish a burning object, it is necessary to first spray the temperature-raising, flammable means (gasoline, oxygen, kerosene).

If a damp blanket or tarpaulin cloth is used to extinguish the fire, no air will enter the fire source. Wet blankets or tarpaulins do not burn.

Gaseous fuels include natural gas, generator gas, hydrogen, and industrial gas.

Ouestion 6:

Complete the table by confirming that the points in the table below are **correct** or **incorrect** using a (+) sign.

	Answer		
Question	right	wrong	
If we put the burning garbage in a clean oxygen container, it will			
start burning immediately.			
A link in an email to the combustion flour, first of all,			
the temperature of the fire to win a heat and oxygen must be ringing.			
To extinguish a burning object, it is necessary to first spray the			
temperature-raising, flammable means (gasoline, oxygen, kerosene).			
Fire training flour wet blanket or tarpaulin fabric is closed,			
the source of the fire Air. Wet blankets or tarpaulins do not burn.			
Gaseous fuel-natural gas, generator gas is hydrogen			
hydrogen, and industrial gas.			

Question 7: Answer the questions below.

Complete the table by answering the questions given in writing.

Question	Answer
If the burning trash is dropped into an air-	
filled container, it will be completely extinguished.	
What is the reason for this?	
If the charcoal is burning, it will continue to	
burn in the air, what is the reason for this?	
What do you mean when you say you have to	
eliminate the factors that keep the combustion	
going in order to put out the flame?	
What do you mean by solid fuels and what do	
they include?	

What do you mean by liquid fuel and what do	
they include?	

Question 8:

The following opinions fu ch greeting you interested in?

Put only one cell (+) in each row.

Question	It's very interesting	It's interesting	Un ch rouse the need to return	It doesn't matter
Study of fuel composition				
Find out why something is burning				
Fire ch ch easles training learn how to un				
Fuel substances ng recognition and visibility properties				
Ng to learn to avoid fire				

5. CONCLUSION

It should be acknowledged that certain changes should be made in the education system according to the cognitive potential of students entering the 5th grade. For example: classes should be taught in 3 groups.

- Group 1 is a class that studies specific sciences
- Group 2 Classes in social sciences and humanities
- Group 3 Natural Science Classes.
- There should be changes in the syllabus for these 3 groups as well, and the teachers who teach the subjects in this syllabus should also be masters of science.
- Group 1 The number of hours in mathematics, algebra, geometry, physics, drawing, fine arts and related sciences should be increased.
- Group 2 should focus more on the social sciences and humanities, mother tongue, literature, history, speech culture, spirituality, etiquette and related subjects.
- Group 3 natural sciences should be more transferred to physics, chemistry, biology, zoology, human anatomy, cytology, natural sciences, ecology, geography.

If these groups are formed in secondary schools, students can achieve better results by studying more subjects according to their abilities and passing exams in higher education in their specialty. I believe that if our students work more on the above PISA contextual questions, their natural-science literacy and creative thinking will increase, and at the same time the international assessment will yield good results from PISA research. So learning - itself suggests, it's secondary school teachers (teaching DSI) so that valuable lessons, and Thomas increase. If the above-mentioned works and lessons are carried out in the same way, it can be seen that high school students can easily participate in the subject Olympiads and take prestigious places.

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